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(Incorporating Amendment No. 1)
Reconfirmed 2016

AS/NZS 1170.0 Supplement 1:2002

Structural design actions—General principles—Commentary (Supplement to AS/NZS 1170.0:2002)

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 00904 (in part).

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF

AS/NZS 1170.0 SUPP 1:2002
Structural design actions—General principles—Commentary (Supplement to AS/NZS 1170.0:2002)

RECONFIRMATION NOTICE

Technical Committee BD-006 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

AS/NZS 1170.0 Supplement 1:2002

Structural design actions—General principles—Commentary (Supplement to AS/NZS 1170.0:2002)

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PREFACE

This Commentary was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-006, General Design Requirements and Loading on Structures, as a Supplement to AS/NZS 1170.0, *Structural design actions*, Part 0: *General principles*. This Commentary supersedes in part AS 1170.1—1989, *Minimum design loads on structures*, Part 1: *Dead and live loads and load combinations* and in part NZS 4203:1992, *Code of practice for general structural design and design loadings for buildings (Vol. 2)*.

This Commentary incorporates Amendment No. 1 (November 2003). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The Commentary provides background material for and guidance to the requirements of the Standard.

The clause numbers of this Commentary are prefixed by the letter 'C' to distinguish them from references to the Standard clauses to which they directly relate. Where a Commentary to certain clauses is non-existent, it is because no explanation of the Clause is necessary.

The intention is that the AS/NZS 1170 series of Standards will be applied by a suitably qualified professional.

The AS/NZS 1170 series sets out the basic procedure for the structural design of structures. Other Standards that provide engineered solutions for particular situations (e.g., house framing) may be based on the methods given in these Standards. The AS/NZS 1170 series includes clauses that contain an element of engineering judgement. This reflects the fact that engineering is a creative activity based on science applied with art and skill.

ACKNOWLEDGEMENT

Standards Australia wishes to acknowledge and thank the following members who have contributed significantly to this Commentary:

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SECTION C1 SCOPE AND GENERAL

C1.1 SCOPE

This Commentary is intended to be read in conjunction with AS/NZS 1170.0:2002. It explains the provisions of and, in some cases, suggests approaches that may satisfy the intent of the Standard. Commentary Clauses are not mandatory. Lists of references are also given for further reading.

The Standard (AS/NZS 1170.0) has been revised as a joint Australian/New Zealand Standard. It specifies the basic procedure for the structural design of structures including buildings. Other documents may be relevant for the details of building design (e.g., design of fire escapes) that are not needed for the design of the structure.

The Standard incorporates the fundamentals of the limit states method and enables the designer to confirm the design of a structure. The intention is that confirmation establishes the ability of the proposed structure to resist known or foreseeable types of action appropriate to the intended use and design working life of the structure.

The determination of structural resistance is covered by the Standards for design of materials.

Much of the philosophy and some of the text (for example, most of the definitions and notation) are drawn from ISO Standards, including ISO 2394, ISO 3898, ISO 4356 and ISO 8930.

The general principles given in the Standard are relevant to the design of any structure. However, the information may not be sufficient for some structure types because their design is more complex (due to the inherent behaviour of the structure) or involves loadings that are not covered (type of action or load case), or other Standards give design criteria.

Structures and structural elements should be designed so that they are suited for their intended use during the design working life.

ISO 2394 states the following:

‘In particular, they shall fulfil, with appropriate degrees of reliability, the following objectives:

(a) They shall perform adequately under all expected actions.

(b) They shall withstand both extreme actions and frequently repeated actions occurring during their construction and anticipated use.

(c) They shall have structural robustness.’

These three objectives enunciate the serviceability, ultimate and fatigue, and progressive collapse (structural robustness) aspects of design.